FIG. 1

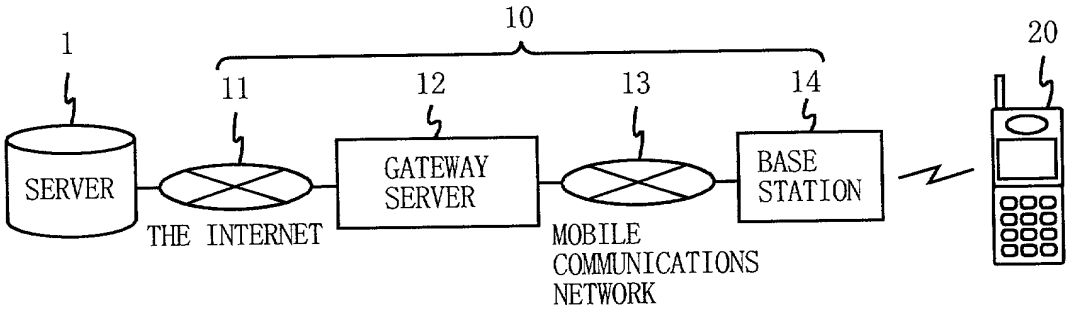
10
1
11
12
13
14
20
SERVER
GATEWAY SERVER
BASE STATION
THE INTERNET
MOBILE COMMUNICATIONS NETWORK

FIG. 2

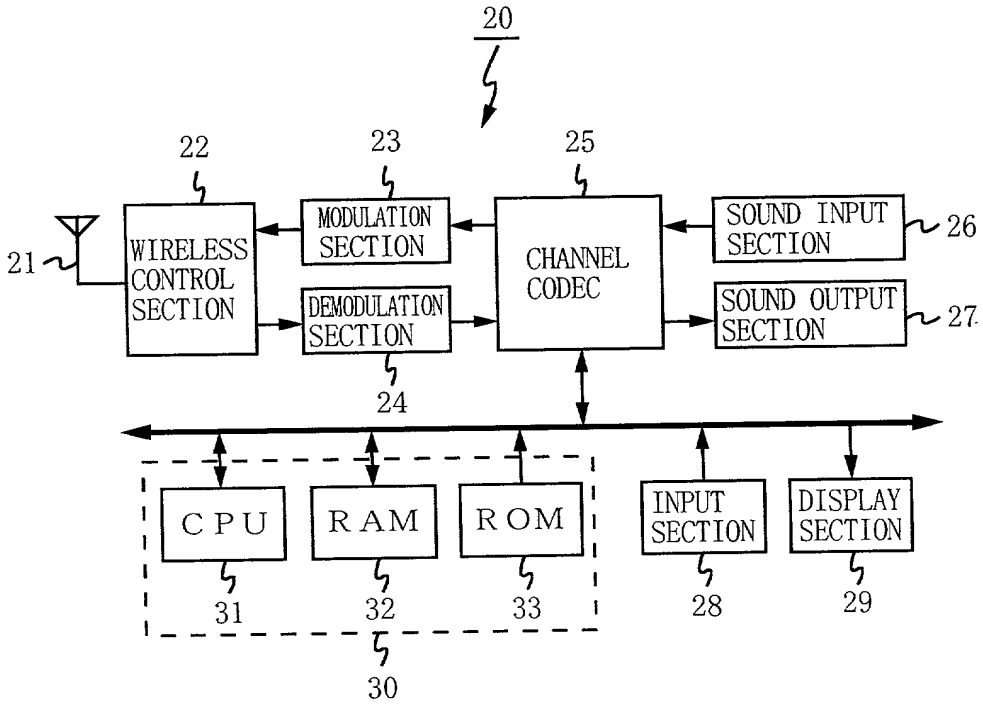
20
22
23
25
21
WIRELESS CONTROL SECTION
MODULATION SECTION
DEMODULATION SECTION
CHANNEL CODEC
SOUND INPUT SECTION
26
SOUND OUTPUT SECTION
27
24
CPU
RAM
ROM
INPUT SECTION
DISPLAY SECTION
31
32
33
28
29
30

FIG. 3

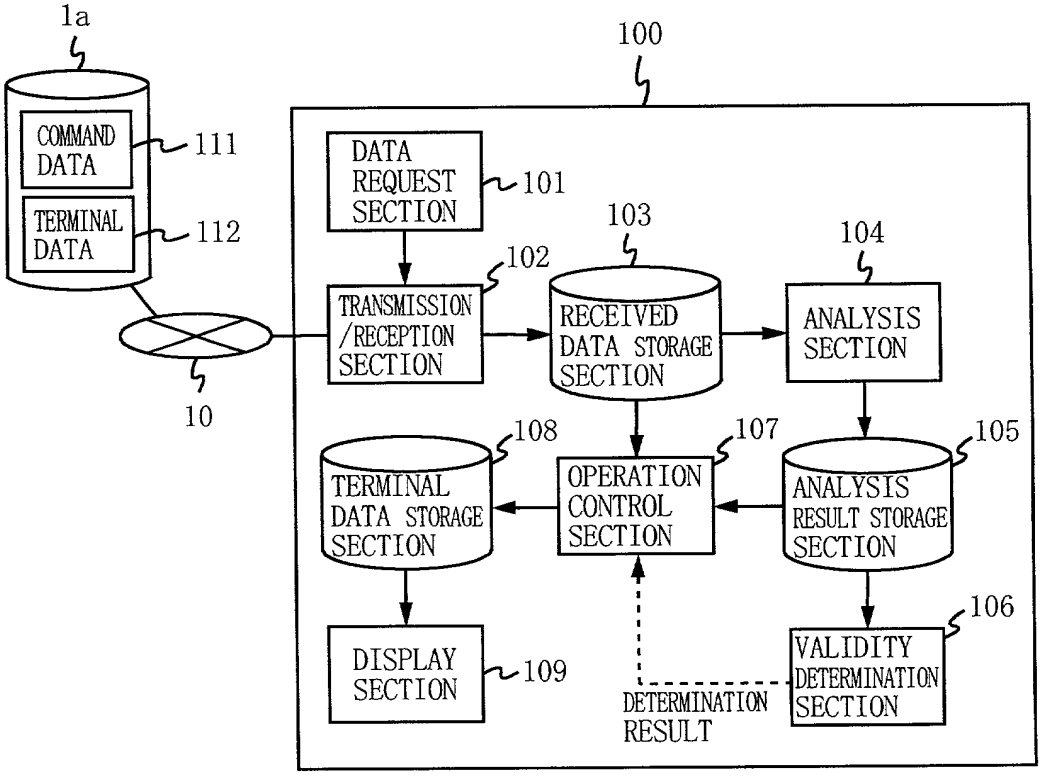
1a
100
COMMAND DATA
111
TERMINAL DATA
112
10
DATA REQUEST SECTION
101
TRANSMISSION /RECEPTION SECTION
102
RECEIVED DATA STORAGE SECTION
103
ANALYSIS SECTION
104
TERMINAL DATA STORAGE SECTION
108
OPERATION CONTROL SECTION
107
ANALYSIS RESULT STORAGE SECTION
105
DISPLAY SECTION
109
VALIDITY DETERMINATION SECTION
106
DETERMINATION RESULT

FIG. 4

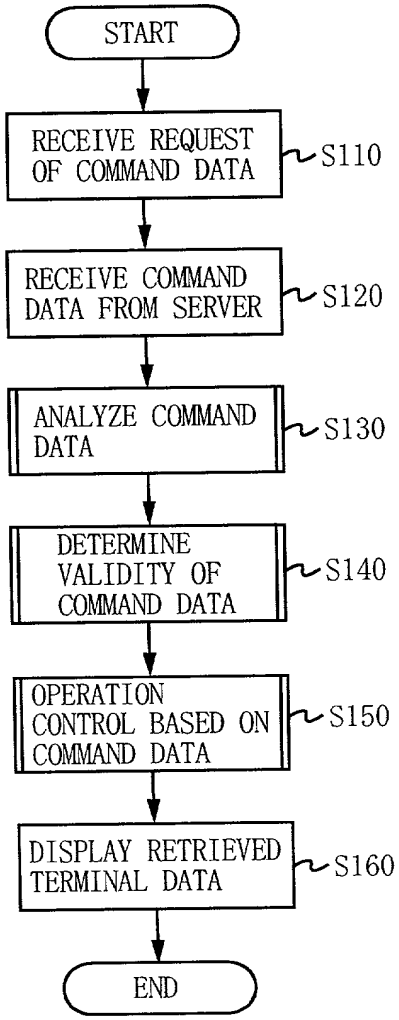
START
RECEIVE REQUEST OF COMMAND DATA
S110
RECEIVE COMMAND DATA FROM SERVER
S120
ANALYZE COMMAND DATA
S130
DETERMINE VALIDITY OF COMMAND DATA
S140
OPERATION CONTROL BASED ON COMMAND DATA
S150
DISPLAY RETRIEVED TERMINAL DATA
S160
END

FIG. 5

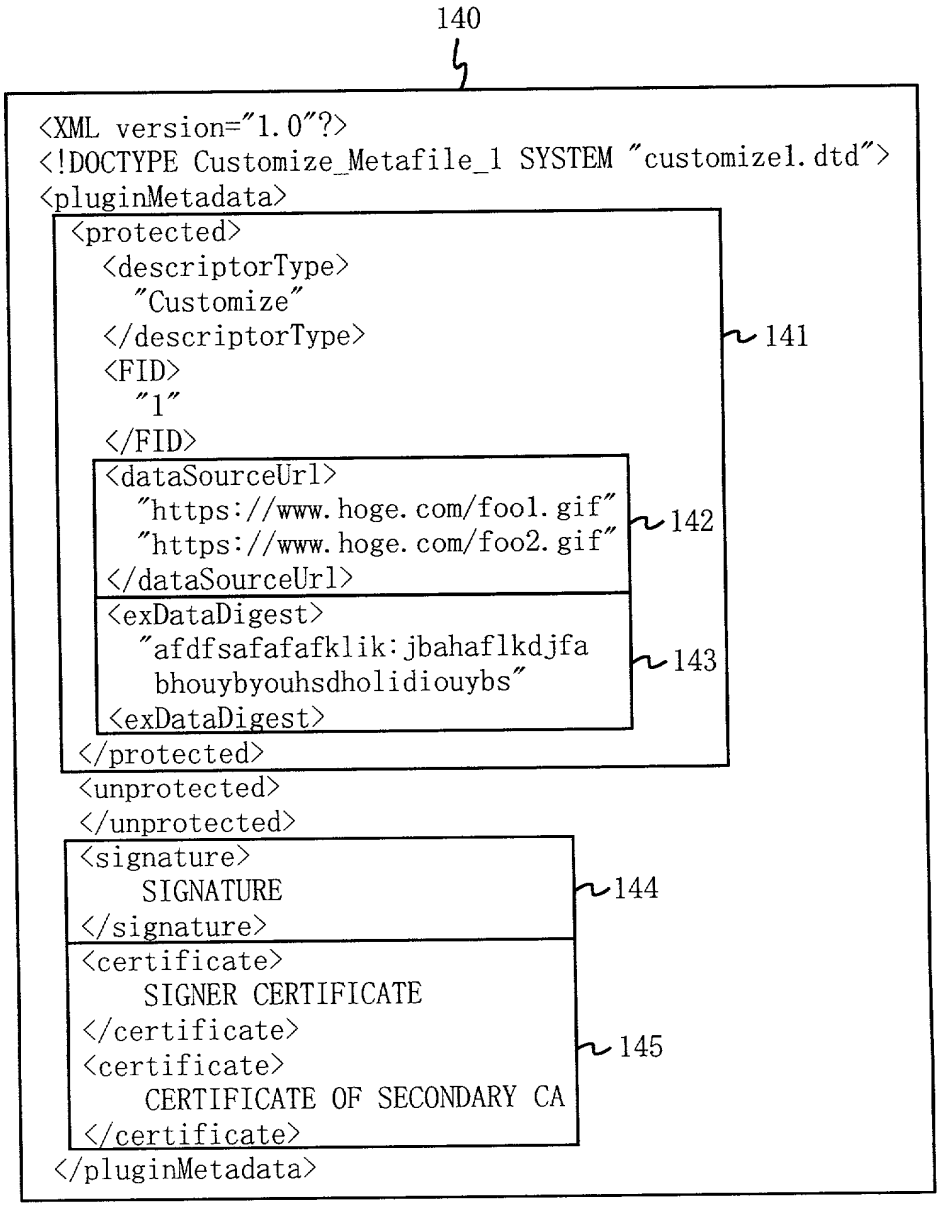
140
<XML version="1.0"?>
<!DOCTYPE Customize_Metafile_1 SYSTEM "customize1.dtd">
<pluginMetadata>
<protected>
<descriptorType>
"Customize"
</descriptorType>
<FID>
"1"
</FID>
<dataSourceUrl>
"https://www.hoge.com/foo1.gif"
"https://www.hoge.com/foo2.gif"
</dataSourceUrl>
<exDataDigest>
"afdfsafafafklik:jbahaflkdjfa
bhouybyouhsdholidiouybs"
<exDataDigest>
</protected>
<unprotected>
</unprotected>
<signature>
SIGNATURE
</signature>
<certificate>
SIGNER CERTIFICATE
</certificate>
<certificate>
CERTIFICATE OF SECONDARY CA
</certificate>
</pluginMetadata>
141
142
143
144
145

FIG. 6

CONTENTS OF DATA	URL
	http://www.hoge.com/foo1.gif
	http://www.hoge.com/foo2.gif

FIG. 7

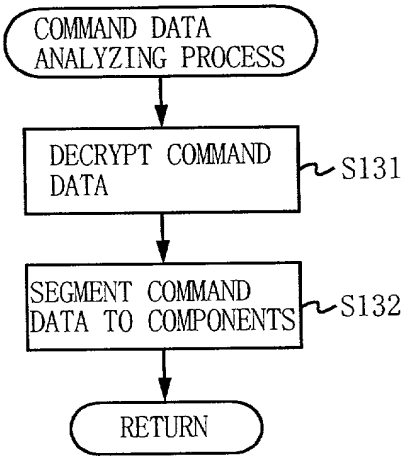

FIG. 8

TAG NAME	DATA
descriptorType	Customize
FID	1
dataSourceUrl	https://www.hoge.com/foo1.gif
dataSourceUrl	https://www.hoge.com/foo2.gif
exDataDigest	afdfsafafafkljk:jbahaflkdjfa
exDataDigest	bhouybyouhsdholidiouybs
signature	SIGNATURE
certificate	SIGNER CERTIFICATE
certificate	CERTIFICATE OF SECONDARY CA

FIG. 9

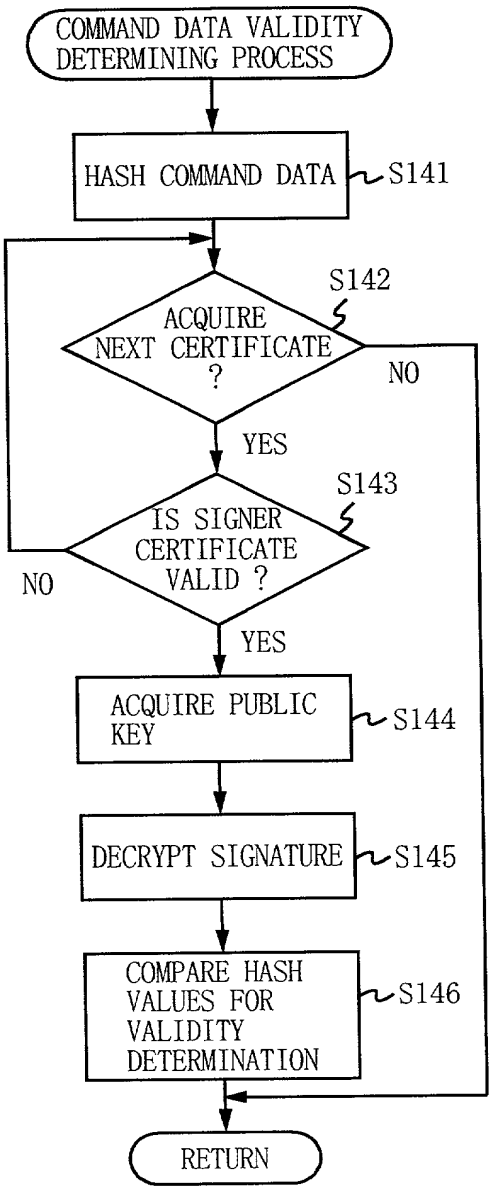
COMMAND DATA VALIDITY DETERMINING PROCESS
HASH COMMAND DATA
S141
S142
ACQUIRE NEXT CERTIFICATE ?
NO
YES
S143
IS SIGNER CERTIFICATE VALID ?
NO
YES
ACQUIRE PUBLIC KEY
S144
DECRYPT SIGNATURE
S145
COMPARE HASH VALUES FOR VALIDITY DETERMINATION
S146
RETURN

FIG. 10

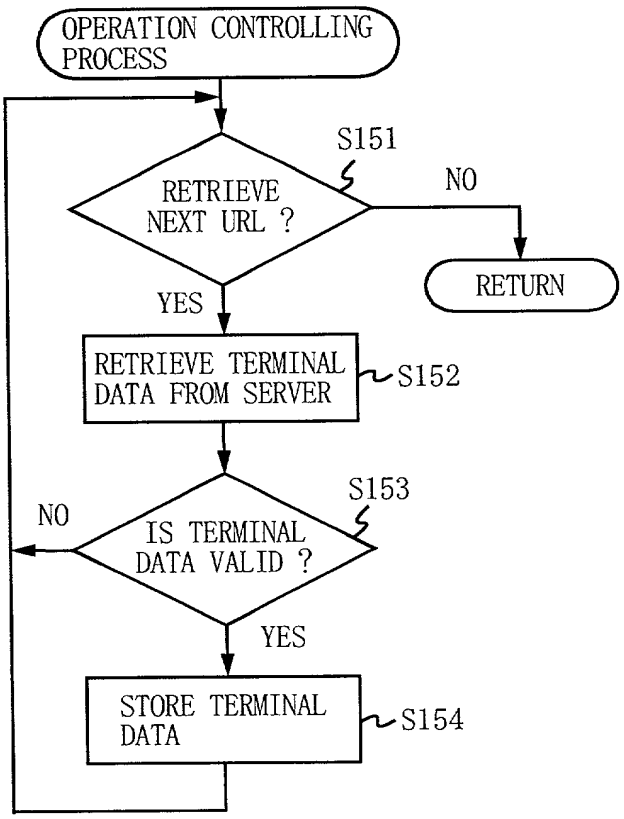
OPERATION CONTROLLING PROCESS
S151
RETRIEVE NEXT URL ?
NO
RETURN
YES
RETRIEVE TERMINAL DATA FROM SERVER
S152
S153
NO
IS TERMINAL DATA VALID ?
YES
STORE TERMINAL DATA
S154

FIG. 11

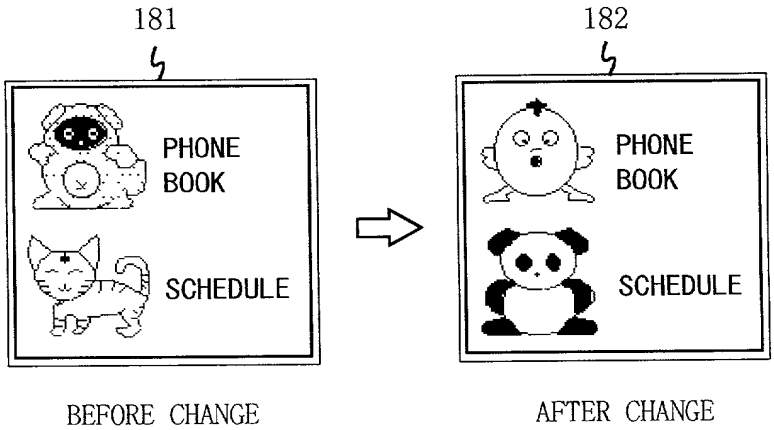
181
182
PHONE BOOK
SCHEDULE
PHONE BOOK
SCHEDULE
BEFORE CHANGE
AFTER CHANGE

FIG. 12

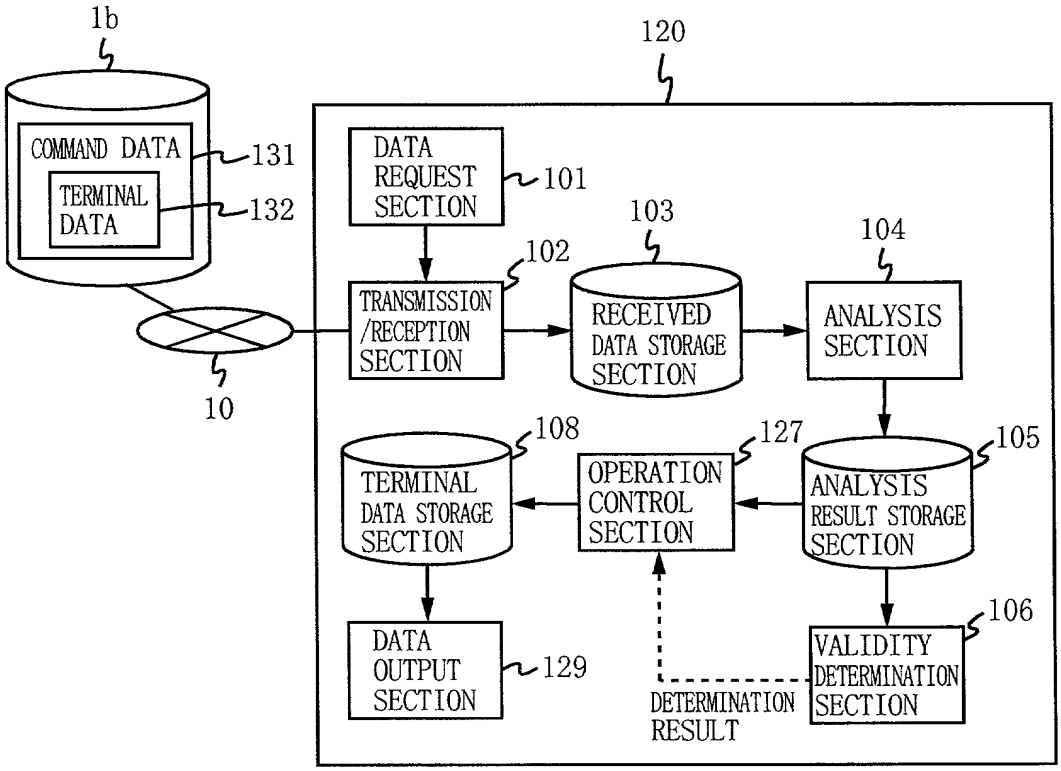
1b
120
COMMAND DATA
131
TERMINAL DATA
132
10
DATA REQUEST SECTION
101
103
104
102
TRANSMISSION /RECEPTION SECTION
RECEIVED DATA STORAGE SECTION
ANALYSIS SECTION
108
127
105
TERMINAL DATA STORAGE SECTION
OPERATION CONTROL SECTION
ANALYSIS RESULT STORAGE SECTION
106
DATA OUTPUT SECTION
129
VALIDITY DETERMINATION SECTION
DETERMINATION RESULT

FIG. 13

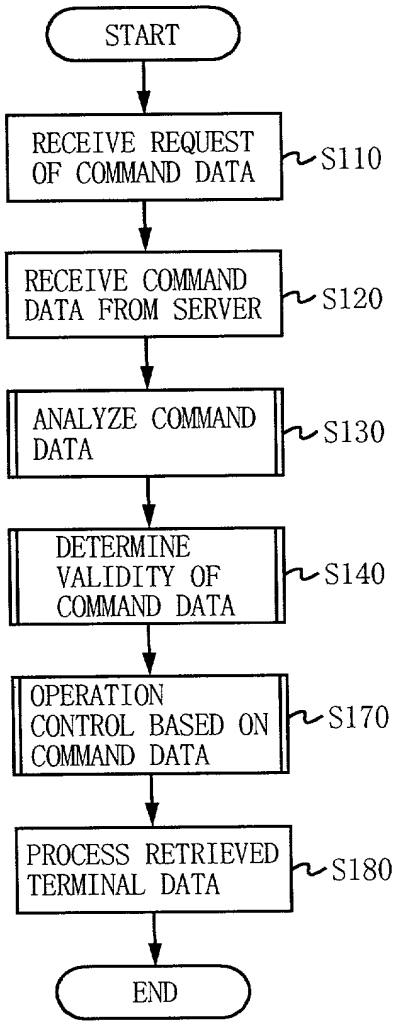
START
RECEIVE REQUEST OF COMMAND DATA
S110
RECEIVE COMMAND DATA FROM SERVER
S120
ANALYZE COMMAND DATA
S130
DETERMINE VALIDITY OF COMMAND DATA
S140
OPERATION CONTROL BASED ON COMMAND DATA
S170
PROCESS RETRIEVED TERMINAL DATA
S180
END

FIG. 14

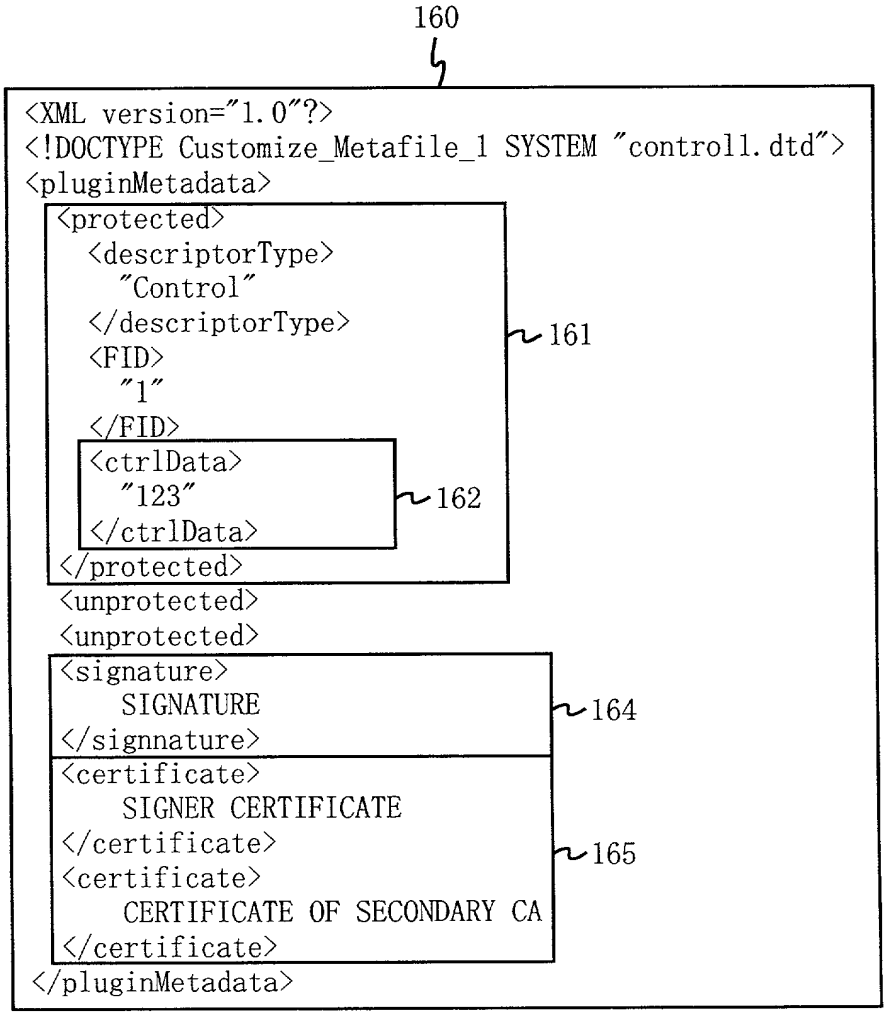
160
<XML version="1.0"?>
<!DOCTYPE Customize_Metafile_1 SYSTEM "control1.dtd">
<pluginMetadata>
<protected>
<descriptorType>
"Control"
</descriptorType>
<FID>
"1"
</FID>
<ctrlData>
"123"
</ctrlData>
</protected>
161
162
<unprotected>
<unprotected>
<signature>
SIGNATURE
</signnature>
164
<certificate>
SIGNER CERTIFICATE
</certificate>
<certificate>
CERTIFICATE OF SECONDARY CA
</certificate>
165
</pluginMetadata>

FIG. 15

TAG NAME	DATA
descriptorType	Control
FID	1
ctrlData	123
signature	SIGNATURE
certificate	SIGNER CERTIFICATE
certificate	CERTIFICATE OF SECONDARY CA

FIG. 16

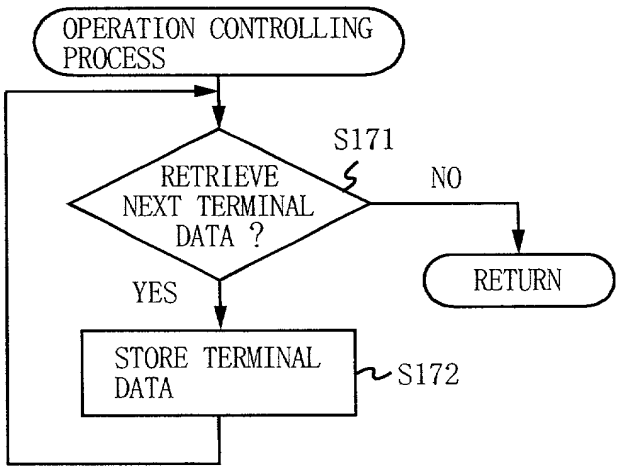

FIG. 17

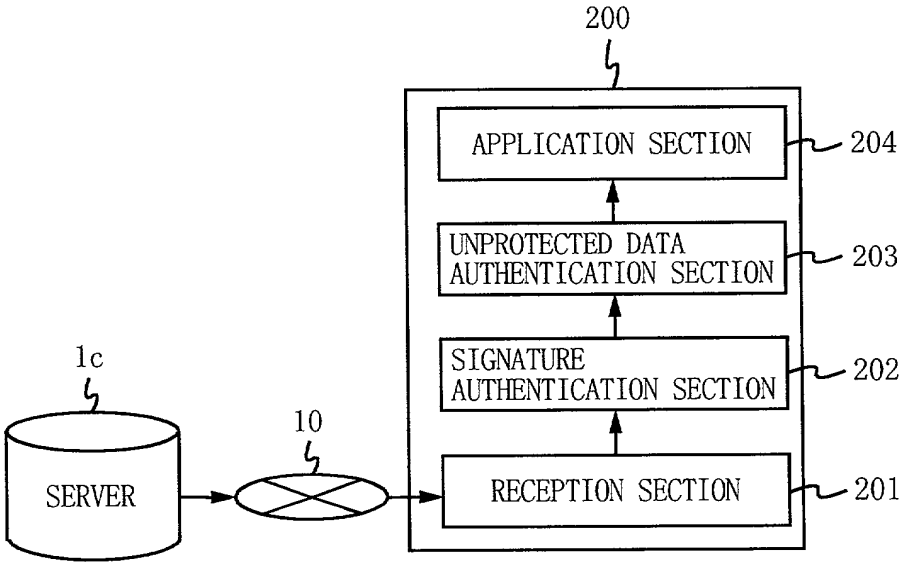
200
APPLICATION SECTION
204
UNPROTECTED DATA AUTHENTICATION SECTION
203
SIGNATURE AUTHENTICATION SECTION
202
RECEPTION SECTION
201
1c
SERVER
10

FIG. 18

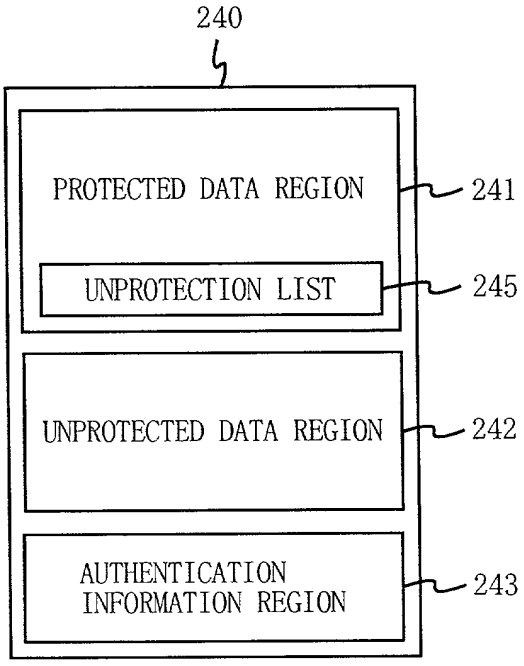
240
PROTECTED DATA REGION
241
UNPROTECTION LIST
245
UNPROTECTED DATA REGION
242
AUTHENTICATION INFORMATION REGION
243

FIG. 19

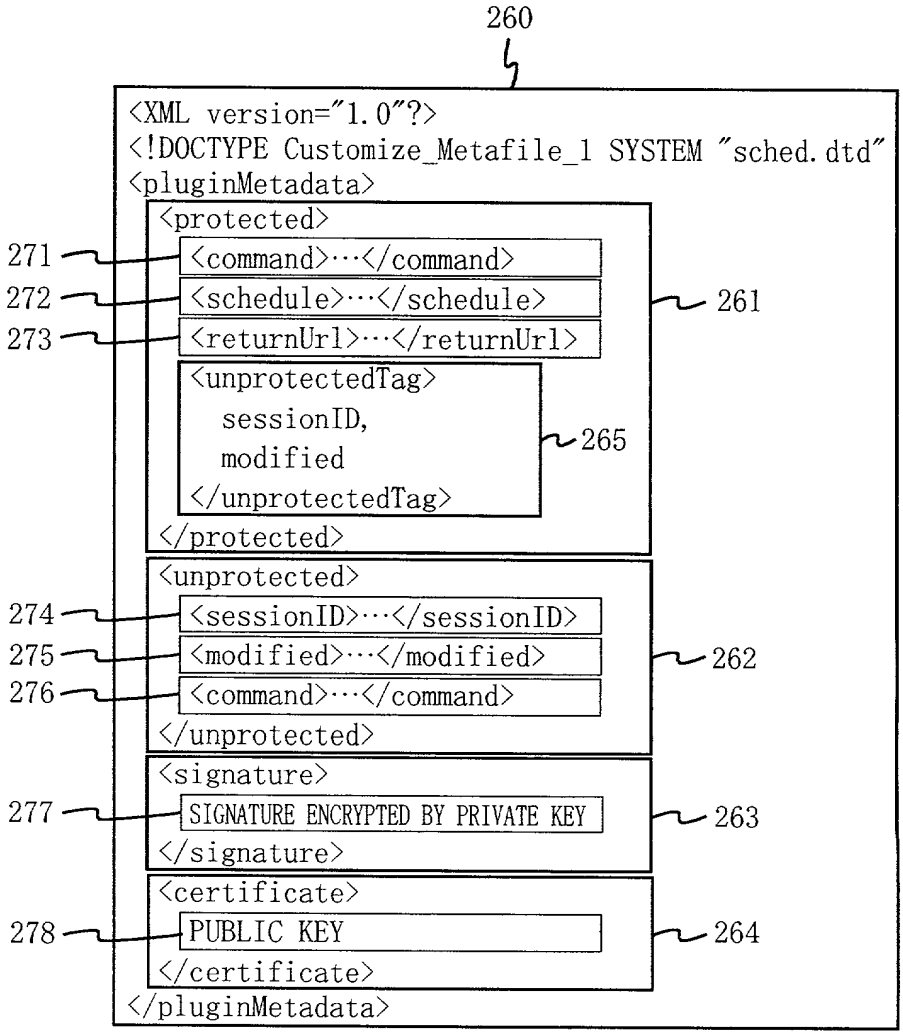
260
<XML version="1.0"?>
<!DOCTYPE Customize_Metafile_1 SYSTEM "sched.dtd"
<pluginMetadata>
<protected>
271
<command>…</command>
272
<schedule>…</schedule>
273
<returnUrl>…</returnUrl>
261
<unprotectedTag>
sessionID,
modified
</unprotectedTag>
265
</protected>
<unprotected>
274
<sessionID>…</sessionID>
275
<modified>…</modified>
276
<command>…</command>
262
</unprotected>
<signature>
277
SIGNATURE ENCRYPTED BY PRIVATE KEY
263
</signature>
<certificate>
278
PUBLIC KEY
264
</certificate>
</pluginMetadata>

FIG. 20

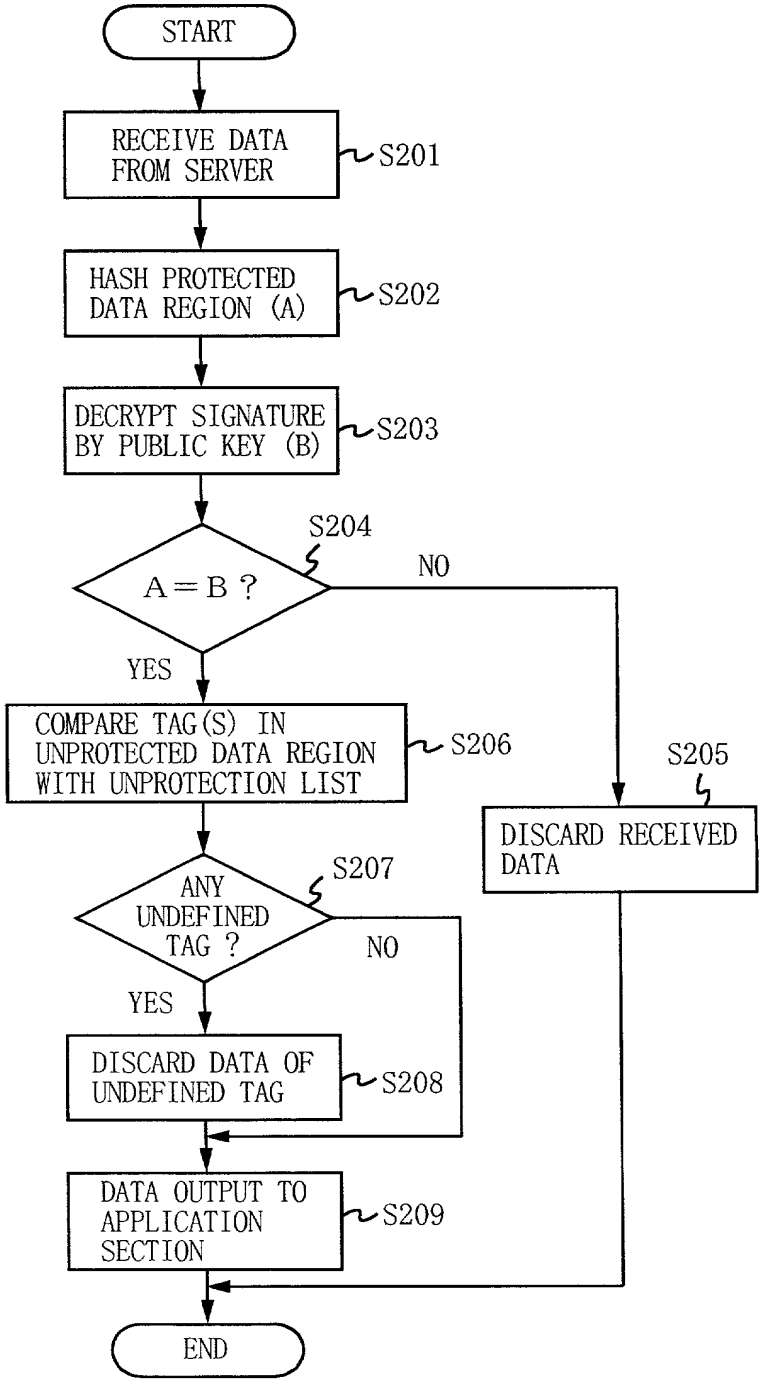
START
RECEIVE DATA FROM SERVER
S201
HASH PROTECTED DATA REGION (A)
S202
DECRYPT SIGNATURE BY PUBLIC KEY (B)
S203
S204
A = B ?
NO
YES
COMPARE TAG(S) IN UNPROTECTED DATA REGION WITH UNPROTECTION LIST
S206
S205
DISCARD RECEIVED DATA
S207
ANY UNDEFINED TAG ?
NO
YES
DISCARD DATA OF UNDEFINED TAG
S208
DATA OUTPUT TO APPLICATION SECTION
S209
END

FIG. 21

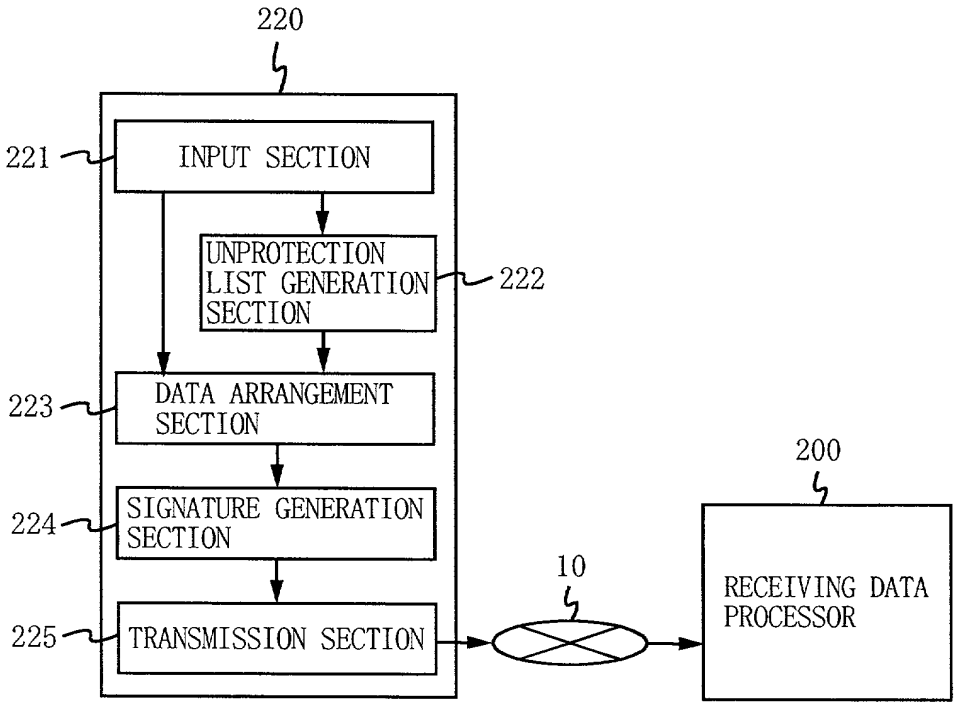
220
221
INPUT SECTION
UNPROTECTION LIST GENERATION SECTION
222
223
DATA ARRANGEMENT SECTION
224
SIGNATURE GENERATION SECTION
225
TRANSMISSION SECTION
10
200
RECEIVING DATA PROCESSOR

FIG. 22

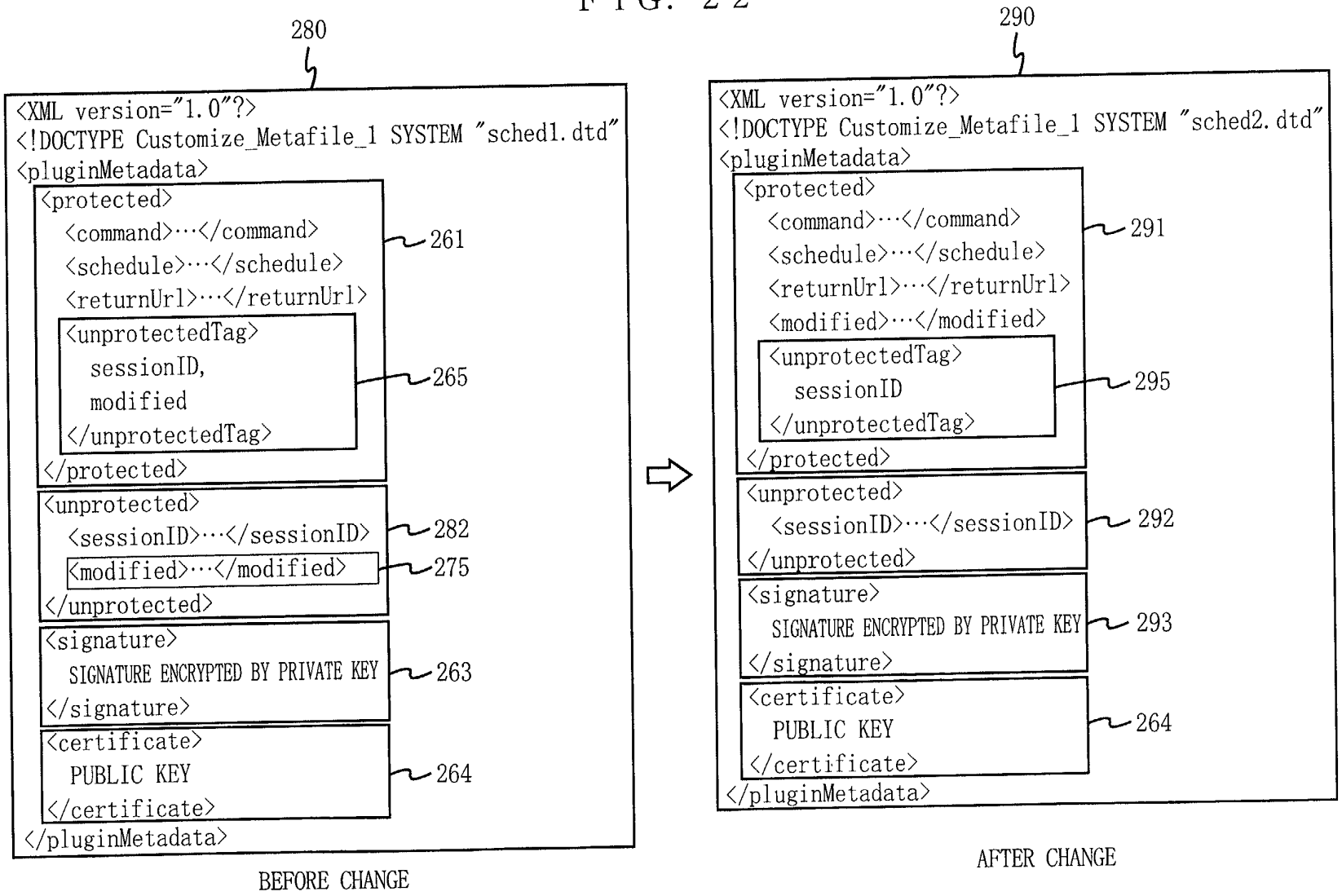
280
<XML version="1.0"?>
<!DOCTYPE Customize_Metafile_1 SYSTEM "sched1.dtd"
<pluginMetadata>
<protected>
<command>…</command>
<schedule>…</schedule>
<returnUrl>…</returnUrl>
<unprotectedTag>
sessionID,
modified
</unprotectedTag>
</protected>
261
265
<unprotected>
<sessionID>…</sessionID>
<modified>…</modified>
</unprotected>
282
275
<signature>
SIGNATURE ENCRYPTED BY PRIVATE KEY
</signature>
263
<certificate>
PUBLIC KEY
</certificate>
264
</pluginMetadata>
BEFORE CHANGE
290
<XML version="1.0"?>
<!DOCTYPE Customize_Metafile_1 SYSTEM "sched2.dtd"
<pluginMetadata>
<protected>
<command>…</command>
<schedule>…</schedule>
<returnUrl>…</returnUrl>
<modified>…</modified>
<unprotectedTag>
sessionID
</unprotectedTag>
</protected>
291
295
<unprotected>
<sessionID>…</sessionID>
</unprotected>
292
<signature>
SIGNATURE ENCRYPTED BY PRIVATE KEY
</signature>
293
<certificate>
PUBLIC KEY
</certificate>
264
</pluginMetadata>
AFTER CHANGE

FIG. 23

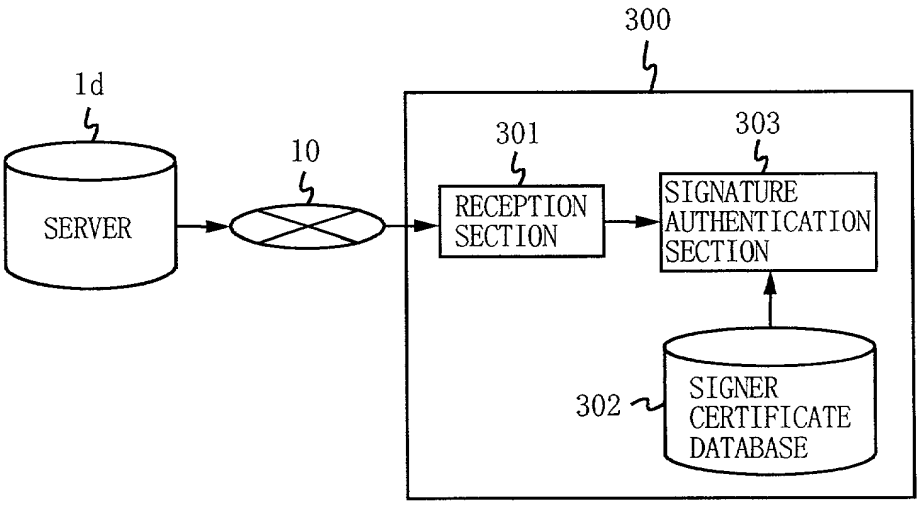
300
1d
SERVER
10
301
RECEPTION SECTION
303
SIGNATURE AUTHENTICATION SECTION
302
SIGNER CERTIFICATE DATABASE

FIG. 24

320

```
(101) <signedInfo>
(102) <signedBy>XYZ CO., LTD.</signedBy>
(103) <command>AddToAddressBook</command>
(104) <parameters>
(105) <name>ABC COMPANY</name>
(106) <fax>06-1234-5679</fax>
(107) <phone>06-1234-5678</phone>
(108) </parameters>
(109) </singnedInfo>
(110) <signature>sZsiuHJmx40HwJ6JZzxkiwsq2</signature>
```

FIG. 25

340

```
(201) <subject>XYZ CO., LTD.</subject>
(202) <issuer>JJJ CERTIFICATE AUTHORITY</issuer>
(203) <notBefore>2000/01/01</notBefore>
(204) <notAfter>2010/12/31</notAfter>
(205) <authorizedContentTypes>adrs, sched</authorizedContentTypes>
(206) <publicKey>Ajsi8Jas0Ihswwcuy82xIsJelM</publicKey>
(207) <signature>sNJAUhgsw8J9Jhheasi9xjiads</signature>
```